

WHAT IS CLAIMED IS:-

1. A developer container detachably mountable in an image forming apparatus, said developer container comprising:

a hollow elongated outer body;

a fresh developer accommodating portion accommodating fresh developer, said fresh developer accommodating portion being provided in said outer body;

a waste developer accommodating portion accommodating waste developer, said waste developer accommodating portion being provided in said outer body; and

a partition wall that separates said fresh developer accommodating portion from said waste developer accommodating portion in such a manner that said accommodating portions extend in the longitudinal direction of said outer body so that said accommodating portions are adjacent to each other,

wherein a width, in the horizontal direction substantially perpendicular to said longitudinal direction, of the interior of said fresh developer accommodating portion at an arbitrary vertical position along said partition wall is substantially equal to or less than a corresponding width at another position below said arbitrary vertical position in a state where said developer container is mounted in said image forming apparatus.

2. A developer container detachably attachable to a print process cartridge, said print process cartridge including a developer discharging mechanism that discharges waste developer through a waste developer discharging opening, said developer container comprising:

a waste developer accommodating portion having a collection opening that receives said developer discharging mechanism so that said waste developer discharged from said waste developer discharging opening is accommodated in said waste developer accommodating portion;

a guide member extending inwardly of said waste developer

accommodating portion from a first position of said waste developer accommodating portion, said first position being situated in the vicinity of an upper peripheral position of said collection opening in a state where said developer container is attached to said print process cartridge;

a waste developer lid provided in said waste developer accommodating portion, said waste developer lid being slidably guided by said guide member so as to open and close said collection opening; and

a resilient urging mechanism that urges said waste developer lid in the direction in which said waste developer lid closes said collection opening,

wherein said waste developer lid moves away from said collection opening overcoming the force of said resilient urging mechanism when said waste developer discharging opening receives said developer discharging mechanism, and

wherein said guide member covers at least said collection opening from above in a state where said developer container is attached to said print process cartridge.

3. The developer container according to claim 2, further comprising:

a developer conveyor extending inwardly of said waste developer accommodating portion from a second position of said waste developer accommodating portion, said second position being situated below said collection opening in a state where said developer container is attached to said print process cartridge, said developer conveyor having an axial end portion which has a semicircular cross section; and

a conveying gear including:

a gear portion provided outside said waste developer accommodating portion;

a shaft portion rotatably supported by a supporting hole formed on a third position of said waste developer accommodating portion, said third position being situated below said collection opening in a state where said

developer container is attached to said print process cartridge; and

a holding hole that holds said axial end portion of said developer conveyor in said waste developer accommodating portion and has an engaging projection engaging said axial end portion.

4. The developer container according to claim 3, wherein the position of said waste developer discharging opening along an axis of said developer conveyor is aligned with a portion in which a helical blade is formed on said developer conveyor, in a state where said waste developer discharging opening of said developer discharging mechanism has entered into said waste developer accommodating portion.

5. The developer container according to claim 3, further comprising:

a sponge provided in said waste developer accommodating portion and disposed in the vicinity of said supporting hole;

a flange portion formed on said conveying gear, said flange portion being disposed at such a position that said flange portion is able to abut against said sponge to restrict the movement of said conveying gear in the direction away from said waste developer accommodating portion;

a projecting end portion of said conveying gear, said projecting end portion having a rotation shaft projection; and

a gear restricting arm provided outside said waste developer accommodating portion, said gear restricting arm rotatably supporting said rotation shaft projection so as to restrict the movement of said conveying gear in the direction away from said waste developer accommodating portion.

6. A print process cartridge to which a developer container is detachably attachable, said developer container including a waste developer accommodating portion accommodating waste developer and a collection opening that opens to the interior

of said waste developer accommodating portion, said print process cartridge comprising:

a discharging mechanism having a waste developer discharging opening through which said waste developer is discharged, and a discharging lid that opens and closes said waste developer discharging opening,

wherein said discharging lid opens said waste developer discharging opening of said developer discharging mechanism when said waste developer discharging opening of said developer discharging mechanism enters into said waste developer accommodating portion through said collection opening, and said discharging lid closes said waste developer discharging opening when said waste developer discharging opening of said developer discharging mechanism moves out of said waste developer accommodating portion through said collection opening.

7. The print process cartridge according to claim 6, wherein said developer discharging mechanism comprises:

a cylindrical portion having a closed end, said waste developer discharging opening being formed on a circumferential wall in the vicinity of said closed end;

a movement-restricting rib formed on said circumferential wall of said cylindrical portion, said movement-restricting rib extending by a predetermined amount from the vicinity of said closed end in the direction substantially parallel to an axis of said cylindrical portion;

a guide projection formed on said circumferential wall and disposed in the vicinity of said closed end so that the rotational position of said guide projection about said axis is apart from that of said movement-restricting rib by a certain angle;

said discharging lid being made of a ring-shaped member that can fit around said cylindrical portion, said discharging lid having first and second guide grooves extending in the direction substantially parallel to said axis of said

cylindrical portion so that the rotational positions of said first and second grooves about said axis are apart from each other by said angle; and

a coil spring that urges said discharging lid,

wherein said discharging lid can be mounted on said cylindrical portion by fitting said discharging lid around said cylindrical portion overcoming the force of said coil spring in such a manner that said guide projection engages said first guide groove and said movement-restricting rib engages said second guide groove, and by rotating said cylindrical portion in such a manner that said movement-restricting rib engages said first guide groove and said guide projection abuts against an end surface of said discharging lid so as to restrict the movement of said discharging lid urged by said coil spring.

8. An image forming apparatus in which said developer container according to claim 1 is mounted.

9. An image forming apparatus in which said developer container according to claim 2 is mounted.

10. An image forming apparatus having said print process cartridge according to claim 6 as a detachable unit.